CLAIMS:

1. A method for melting glass comprising the steps of:

providing a current conducting melting vessel within which glass can be melted;

providing at least two induction heating coils at selected locations proximate to said melting vessel; and

selectively supplying power to said coils to thereby selectively energise said coils; whereby

the mutual induction of current in a non-energised heating coil adjacent to an energised heating coil is prevented via a switching element in power supply circuitry associated with said non-energised coil.

2. The method as claimed in claim 1 further comprising the steps of:

when two or more adjacent coils are simultaneously energised during a heating operation, balancing the heating power delivered to respective zones associated with each adjacent coil, in said vessel.

3. The method as claimed in claim 2 further comprising the steps of:

during said heating operation in which two or more adjacent coils are simultaneously energised, allowing the mutual induction of current in said adjacent coils to occur.

4. The method as claimed in any one of claims 1 to 3 further comprising the steps of:

selecting which of said at least two induction coils is energised at any instant by selectively switching a switching element, located in power supply circuitry associated with a respective coil, on or off.

5. The method as claimed in any one of claims 1 to 4 further comprising the steps of:

prior to a step of energising a selected coil, precharging a capacitor bank and subsequently utilising power stored in said capacitor bank during said precharging step, during an early stage of energising said selected coil.

6. The method as claimed in any one of claims 1 to 5 further comprising the step of providing a 50 Hertz AC power supply for supplying power to said at least two coils.

7. The method as claimed in any one of claims 1 to 6 wherein said switching elements comprise at least one thyristor.

8. Apparatus for melting glass via induction melting comprising:

a current conducting melting vessel;

at least two induction heating coils provided at selected locations proximate to said melting vessel;

a plurality of power supply circuits each being associated with a respective one of said heating coils and being arranged for selectively supplying power to a respective coil to thereby energise that respective coil; wherein

each power supply circuit includes a switching element for preventing the mutual induction of current in a non-energised heating coil when an adjacent heating coil is energised.

9. The apparatus as claimed in claim 8 wherein:

each heating coil is arranged to provide a heating effect in a respective region of the melting vessel when said coil is energised.

10. The apparatus as claimed in claim 8 or claim 9 wherein said switching element comprises at least one thyristor.

11. The apparatus as claimed in any one of claims 8 to 10 wherein:

said melting vessel includes an input and a drain output and pour output arranged respectively for receiving glass frit and waste material, draining the contents of said vessel during a draining operation and pouring a molten mixture of said glass and waste material during a pour operation.

12. The apparatus as claimed in claim 11 further comprising:

a plurality of induction heating elements each arranged proximate to a respective one of said inputs and drain and pour outputs and arranged to selectively melt a glass seal closing the input or output to thereby permit the addition of new glass and/or waste material and the outflow of molten material respectively.

13. The apparatus as claimed in any one of claims 8 to 12 wherein:

each power control circuit includes a further switching element arranged to selectively charge a bank of capacitors in said power control circuit during a precharge operation.

14. The apparatus as claimed in any one of claims 9 to 13 further comprising:

a 50 Hertz AC power supply for supplying power to said heating coils.

15. A method for reprocessing waste material comprising the steps of:

locating said waste material together with glass forming material in a current conducting melting vessel;

applying power to at least one of a plurality of induction heating coils located proximate to said vessel to thereby heat said glass forming material; and

subsequently pouring a molten mixture of glass and waste material from said vessel into a storage container; wherein

during said power applying step, at least one of said heating coils is energised and mutual induction of current in a non-energised heating coil adjacent said energised coil is prevented via a switching element in power supply circuitry associated with said non-energised coil.

16. The method as claimed in claim 15 further comprising the steps of:

when two or more adjacent coils are simultaneously energised during said power applying step, balancing the heating power delivered to respective zones associated with each adjacent coil in said vessel.

17. A method for melting a target material comprising the steps of:

providing a current conducting melting vessel within which said target material can be melted;

providing at least two induction heating coils at selected locations proximate to said melting vessel; and

selectively supplying power to said coils to thereby selectively energise said coils; whereby

the mutual induction of current in a non-energised heating coil adjacent to an energised heating coil is prevented via a switching element in power supply circuitry associated with said non-energised coil.

18. The method as claimed in claim 17, further comprising the steps of:

when two or more adjacent coils are simultaneously energised during a heating operation, balancing the heating power delivered to respective zones associated with each adjacent coil, in said vessel.

19. The method as claimed in claim 18, further comprising the steps of:

during said heating operation in which two or more adjacent coils are simultaneously energised, allowing the mutual induction of current in said adjacent coils to occur.

20. The method substantially as hereinbefore described with reference to the accompanying drawings.

21. Apparatus constructed and arranged substantially as hereinbefore described with reference to the accompanying drawings.